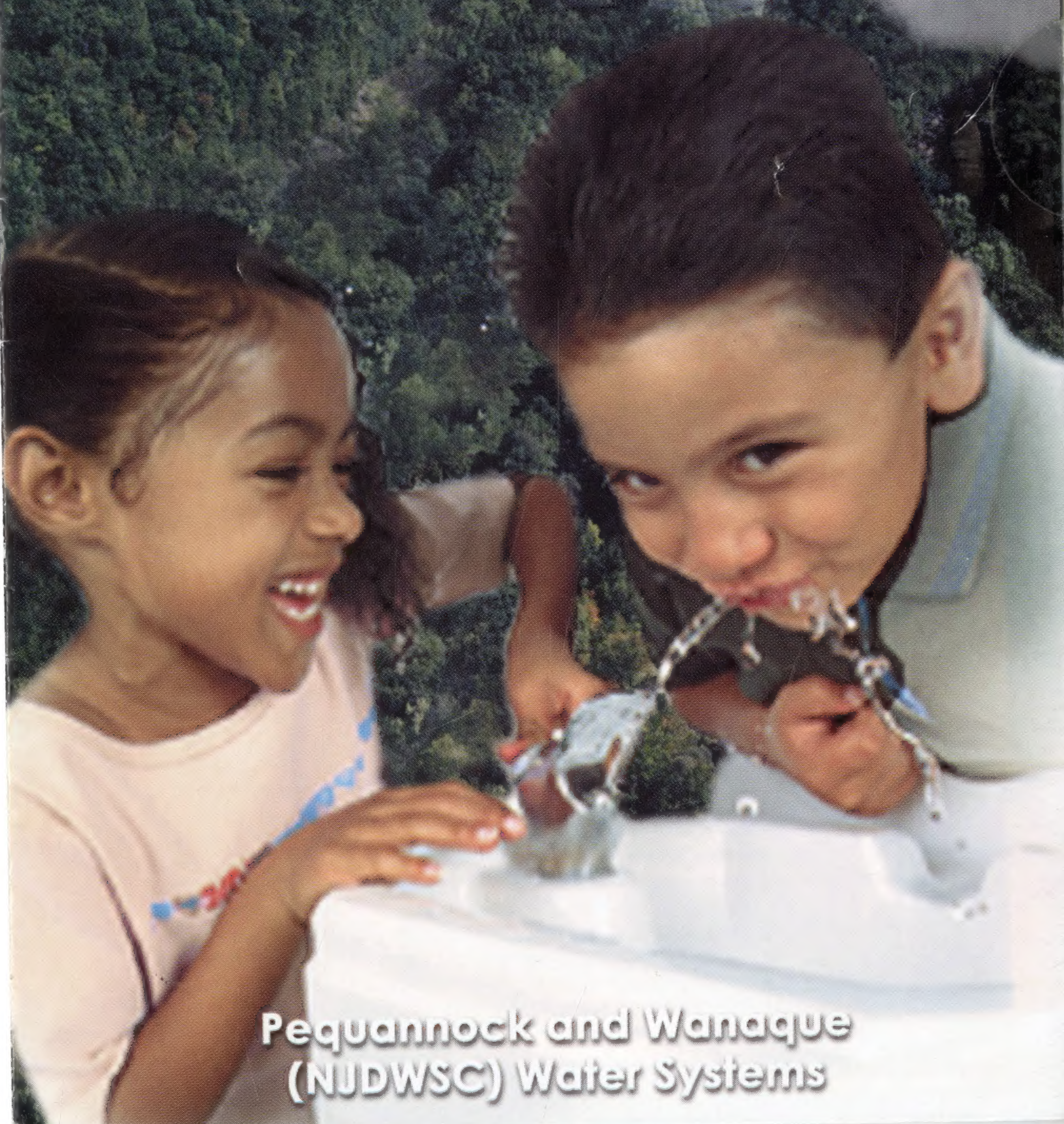


2002

Newark
Division of Water Supply
Annual Water Quality
Report 2002

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BOOK OF NEWARK



**Pequannock and Wanaque
(NJDWSC) Water Systems**

CITY OF NEWARK



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This is an annual report on the quality of water delivered by City of Newark. It meets the Federal Safe Drinking Water Act (SDWA) requirement for "Consumer Confidence Reports" and contains information on the source of our water, its constituents, and the health risks associated with any contaminants. Safe water is vital to our community. Please read this report carefully and, if you have questions, call the numbers listed below.

THE CITY OF NEWARK'S DRINKING WATER MEETS OR SURPASSES ALL FEDERAL AND STATE DRINKING WATER STANDARDS.

Call us for information about the next opportunity for public participation in decisions about our drinking water at (973) 256-4965. Find out more about the City of Newark on the Internet at <http://www.newarkwater.com>

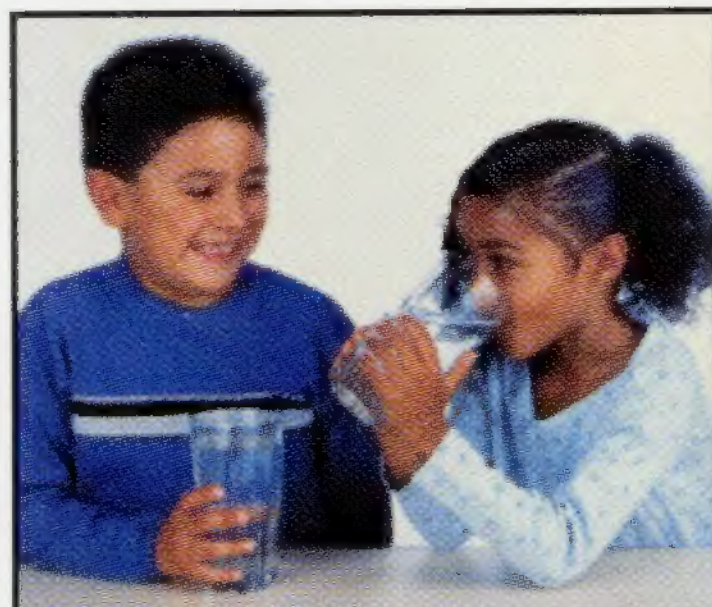
The report contains important information about our drinking water. If you do not understand it, please have someone translate it for you.

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Este reporte contem informações importantes sobre a sua água de beber. Traduza-o ou fale com alguém que o compreenda.

OVERVIEW - Water Source

The City of Newark's water comes entirely from surface sources in the Pequannock and Wanaque watersheds that cover 150 square miles of forestlands in Morris, Sussex and Passaic Counties. Newark's Pequannock Supply is from five pristine water supply reservoirs; the 14.4 billion gallon supply is from Charlottesburg, Echo Lake, Canistear, Clinton and Oak Ridge reservoirs. NJDWSC gets its water from two of the most pristine water supply reservoirs in the country; namely, the 29.6 billion gallon Wanaque and the 7 billion gallon Monksville. The Commission also operates two pump stations designed to pump 250 million gallons per day of water from the Pompton River and 150 million gallons per day from the Ramapo River into the Wanaque Reservoir as needed. The New Jersey Department of Environmental Protection (NJDEP) is preparing Source Water Assessment Reports and Summaries for all Public Water Systems (PWS), which are expected to be complete in 2003. Further information on the source water assessment program can be obtained by logging on to NJDEP's source water assessment website at www.state.nj.us/dep/swap or by contacting NJDEP's Bureau of Safe Drinking Water at 609-292-5550. You may also contact the City of Newark water department at 973-256-4965.



The City of Newark was required to conduct the UCMR sampling and testing for the Unregulated Contaminants Monitoring Rule (UCMR). During this testing no UCMR contaminants were detected.

Safeguarding Our Water

The City of Newark Water Treatment plant located in West Milford and the NJDWSC Water Treatment Plant is located in Wanaque, NJ, where it is purified and filtered to ensure its safety and potability. To ensure the safety of the water, NJDWSC and Newark routinely monitors and tests the water at rivers, lakes and streams that supply its reservoirs. We continually monitor the quality of water throughout the distribution system, which finds its way to you, the consumer. This is all done at fully NJDEP and EPA Certified Water Quality Laboratories.

In response to the events of September 11, and in response to the State's Domestic Security Preparedness Act, Newark has completed a vulnerability assessment of its water supplies, treatment plant and transmission system, provided additional security, and reviewed operations to include a greater emphasis on security issues. The City is taking the necessary proactive steps to implement the conclusions of this study.

Questions & Answers

Is my water hard or soft?

Hardness describes the level of the dissolved natural minerals (calcium and magnesium) in drinking water. These minerals are an important part of a healthy diet. Hard water contains more mineral nutrients and less sodium. A gradual build-up of calcium and magnesium in hard water can form harmless, filmy white deposits on faucets, bathtubs, and tea kettles. Hard water also requires more soap to lather fully. The degree of water hardness varies depending on where you live. Newark's water in this area typically has a hardness level of 47 to 60 parts per million which means it is moderately soft.

Why is there chlorine in my water?

A century ago, acute diseases such as typhoid fever and cholera were a very real threat to our health because the microorganisms that caused these diseases were found in public drinking water. However, for almost 100 years, water suppliers in America and other countries have used chlorine to treat or disinfect drinking water. According to the U.S. Environmental Protection Agency and other health agencies, chlorine is currently one of the most effective disinfectants to kill harmful microorganisms. Disinfection of all public water supplies is required by federal and state laws and regulations, including the Safe Drinking Water Act and the Surface Water Treatment Rule.

What is Turbidity?

Turbidity is a measure of the cloudiness of water. The City monitors it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfection.

Does Newark add fluoride to my water?

No. Newark does not add fluoride to the water in your community. However, a small amount of fluoride may occur naturally in your water. About 0.10 parts per million fluoride was detected in your water supply last year.

Current Water Issues

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the EPA Safe Drinking Water Hotline (800-426-4791).

You may have noticed media attention to public water supply issues related to radiological substances, mercury, lead, radon, arsenic and Cryptosporidium. At Newark, we are well aware of these and other water quality matters. We have performed- and continue to perform - extensive testing of all of our water supplies. We want to assure our customers that we are providing the high-quality water you expect and deserve. You may be interested to know the following information:



Newark's Water Quality Report

Regulated Contaminants	Units	Maximum Contaminant Level Goal (MCLG)	Maximum Contaminant Level (MCL)	Results		Source of Contaminant
				Pequannock System	Wanaque System	
Inorganic Contaminants:						
Barium	ppm	2	2	0.0086	0.0156	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	ppb	100	100	N.D	N.D	Erosion of natural deposits; discharge from steel and pulp mills
Copper	ppm	1.3	AL=1.3	0.0998	0.095	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride	ppm	4	4	0.046	0.101	Erosion of natural deposits; water additive which promotes strong teeth. discharge from
Lead	ppb	0	AL=15	13.8	12	Corrosion of household plumbing systems; erosion of natural deposits.
Nitrate (As	ppm	10	10	0.061	0.33	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Radiological Substances:						
Gross Alpha	pCi/l	0	15	0.04	<0.27	Erosion of natural deposits.
Regulated Contaminants	Units	Maximum Contaminant Level Goal (MCLG)	Maximum Contaminant Level (MCL)	Results		Source of Contaminant
				Pequannock System	Wanaque System	
Microbiological Substances:						
Total Coliforms Bacteria	Presence of positive sample	0	Presence of Coliforms in >5% of monthly samples	0	0.21%	Naturally present in the environment
Volatile Organic Chemicals:						
VOC's	ppb		MCL dependent on specific VOC	N.D.	N.D.	VOC's come from industrial chemical factories discharges. They include benzene, toluene and naphthalene
Turbidity :						
Turbidity	ntu	N.S.	<5% of samples exceed 0.3 NTU	0.13-0.35	0.02-0.20 0.73 highest measurement	Soil runoff
Treatment by-products:						
Total Trihalomethanes (TTHM's)	ppb	N.A.	80	40.3-84.7 Average = 46.3	34.0-92.0 Average = 69.0	By product of drinking water disinfection
Halo Acetic Acids	ppb	NA	60	40.5-64.7 Average = 46.0	27.0-56.0 Average = 37	By product of drinking water disinfection
Secondary Contaminants	Units		Secondary Maximum Contaminant Level (SMCL)	Results		Source of Contaminant
				Pequannock System	Wanaque System	
Alkalinity	ppm		NS	24.6	49.8	A characteristic of water caused primarily by carbonate, bicarbonate and hydroxide ions.
Aluminum	ppm		0.2	0.116	0.0424	By-product of water treatment using aluminum salts.
Calcium	ppm		NS	19.1	26	Erosion of natural deposits.
Chloride	ppm		250	31	68.6	Erosion of natural deposits.
Chlorine Residual	ppm		4	0.97	1.2	Chlorine remaining in treated water and available to destroy disease causing organisms.
Color	CU		10	4	2	Presence of manganese and iron, plankton, humus, peat and weeds.
Hardness	ppm		50-250	51.7	99.2	A characteristic of water caused primarily by salts of calcium and magnesium.
Magnesium	ppm		NS	5.23	6	Erosion of natural deposits
Odor (TON)	TON		3	1	1	Algae and plant matter.
Secondary Contaminants	Units		Secondary Maximum Contaminant Level (SMCL)	Results		Source of Contaminant
				Pequannock System	Wanaque System	
pH	units		6.5-8.5	7.6	8.6	Presence of carbonates, bicarbonates and carbon dioxide.
Sodium	ppm		50	12.8	36.9	Runoff from road salt and from some water softening processes.
Sulfate	ppm		250	12.8	38.1	Drainage of mining wastes, erosion of natural deposits.
Total Dissolved Solids	ppm		500	117	221	Erosion of natural deposits.
Regulated Disinfectants	ppm					
Chlorine	ppm	4.0 MRDL	4.0 MRDLG	< 4.0	<4.0	Needed for control of Microbial Contaminants

What Does This Table Mean?

The table shows the results of our water quality analyses. The table contains the name of the substance, the highest level allowed by regulation (MCL), the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement. Definitions of MCL, MRDL, MRDLG and MCLG are important.

KEY TO TABLE

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.



Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirement that a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

ppm (parts per million): 1 drop in 10 gallons, 1 inch in 16 miles, or one penny in \$10,000.

ppb (parts per billion): 1 drop in 10,000 gallons, 1 inch in 16,000 miles, or one penny in \$10,000,000.

picoCurie (pCi): A unit used to describe the level of activity or decay of a radioactive element.

MFL = million fibers per liter

mrem/year = millirems per year (a measure of radiation absorbed by the body).

NTU = Nephelometric Turbidity Units.

pCi/l = pico curies per liter (a measure of radioactivity).

ppt = parts per trillion, or nanograms per liter.

ppq = parts per quadrillion, or picograms per liter.

Secondary Contaminants = Federal drinking water measurements for substances that are not health related. These are recommended levels and reflect aesthetic qualities of water.

SMCL = Secondary Maximum Contaminant Level; **TON** = Threshold Odor Number; **NS** = No Standard; **ND** = Not detectable at testing limit

TON = Threshold Odor Number

NS = No Standard

ND = Not detectable at testing limit

• Organic chemical substances including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

• Radioactive substances that can be naturally occurring or can be the result of oil and gas production and mining activities.

• To ensure that tap water is safe to drink, the Environmental Protection Agency prescribes regulations that limit the amount of certain substances in water provided by public water systems. Food and Drug Administration regulations establish limits for substances in bottled water that must provide the same protection for public health.

The Safe Drinking Water Act regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals and synthetic organic chemicals. Our system received monitoring waivers for asbestos and synthetic organic chemicals.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER Monitoring Requirements Not Met for Individual Filters by North Jersey District Water Supply Commission (the "Commission") in Year 2002

The Commission's water system violated several drinking water monitoring requirements in the Year 2002. Even though these were not emergencies, as our customers, you have a right to know what happened and what we did to correct these situations. At no time did the water delivered to you exceed drinking water quality standards.

The Commission is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During separate incidents occurring between January 11, 2002 - June 5, 2002, the Commission did not record the results of individual filter Turbidities, nor take required grab samples for individual turbidity meters, and, therefore, cannot be sure of the quality of our drinking water during that time from these individual filters.

What Should I do?

There is nothing you need to do. A combined filter turbidity of all the water produced by the Commission was constantly monitored and at no time was the turbidity in the filtered water found to exceed the turbidity standards.

The table below lists the contaminant (Turbidity) we did not properly test for during the above period, required sampling frequency, date and time samples were not taken, and when normal sampling resumed.

Contaminant	Required Sampling Frequency	Date and Time Samples not taken or Recorded	Date and Time Sampling Resumed
a) Turbidity for Individual Filter #10	Continuous; in case of unit failure, grab sample every four (4) hours. [40 CFR.141.174(b)]	1/11/02 9:22 am to 2/13/02 to 3:29 pm	2/13/02 3:30 pm
b) Turbidity for Individual Filter # 3	Continuous; in case of unit failure, grab sample every four (4) hours. [40 CFR.141.174(b)]	2/20/02 3:31 pm to 3/1/02 to 8:49 pm	3/1/02 8:50 pm
c) Turbidity for Individual Filter # 3	Continuous; in case of unit failure, grab sample every four (4) hours. [40 CFR.141.174(b)]	3/28/02 3:57 pm to 4/3/02 to 2:59 pm	4/3/02 3:00 pm
d) Turbidity for Individual Filters # 1-13	Continuous; in case of unit failure, grab sample every four (4) hours. [40 CFR.141.174(b)]	6/1/02 12:00 am to 6/4/02 to 10:27 pm	6/4/02 10:28 pm
e) Turbidity for Individual Filters #1-13	Continuous; in case of unit failure, grab sample every four (4) hours. [40 CFR.141.174(b)]	6/25/02 10:17 am to 6/25/02 to 4:01 pm	6/25/02 4:02 pm

What happened? What is being done?

- a) Failure of power supply - power reinitiated.
b & c) Intermittent electronics problems - Turbidimeter replaced in individual filter(s).
d & e) All individual turbidimeters were working, however due to the computer system change over, we were unaware that data was not being recorded. Corrective action included computer logging.

For more information, please contact our Laboratory Manager or Plant Manager at (973) 835-3600 or 1 F.A. Orechio Drive, Wanaque, NJ 07465.

Please share this information with all the other people who drink this water, especially those who may have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by North Jersey District Water Supply Commission, State Water System ID#: 1613001.

• Organic chemical substances including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

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b) Turbidity for Individual Filter # 3	Continuous; in case of unit failure, grab sample every four (4) hours. [40 CFR.141.174(b)]	2/20/02 3:31 pm to 3/1/02 to 8:49 pm	3/1/02 8:50 pm
c) Turbidity for Individual Filter # 3	Continuous; in case of unit failure, grab sample every four (4) hours. [40 CFR.141.174(b)]	3/28/02 3:57 pm to 4/3/02 to 2:59 pm	4/3/02 3:00 pm
d) Turbidity for Individual Filters # 1-13	Continuous; in case of unit failure, grab sample every four (4) hours. [40 CFR.141.174(b)]	6/1/02 12:00 am to 6/4/02 to 10:27 pm	6/4/02 10:28 pm
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This notice is being sent to you by North Jersey District Water Supply Commission, State Water System ID#: 1613001.

Required Additional Health Information

Special Considerations Regarding Children, Pregnant Women, Nursing Mothers, and Others:

Children may receive a slightly higher amount of a contaminant present in their water than adults, on a body weight basis, because they may drink a greater amount of water per pound of body weight than adults do. For this reason, reproductive or development effects are used for calculating a drinking water standard if these effects occur at lower levels than other health effects of concern. If there is insufficient toxicity information for a chemical, an extra uncertainty factor may be incorporated into the calculation of drinking water standard, thus making the standard more stringent, to account for uncertainties regarding these effects. In the case of lead and nitrate, effects on infants and children are the health endpoints upon which the standards are based.

Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Lead: Infants and young children are typically vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the vicinity as a result of materials used in your home plumbing. If you are concerned about elevated lead levels in your home water, you may wish to flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water hot line at 800-426-4791.

Arsenic: There was no detectable Arsenic in the drinking water in 2002.

To ensure that tap water is safe to drink, EPA prescribes limits on the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791)

*The PWSID for Pequannock System is 0714001 and Wanaque system is 1613001.
Funding for the City of Newark's Annual Water Quality Report is provided by the
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